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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/075,311	02/14/2002	Mark Thomas Johnson	NL010090	8934

24737 7590 01/10/2005

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

NGUYEN, KEVIN M

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/075,311

Applicant(s)

JOHNSON ET AL.

Examiner

Kevin M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is made in response to applicant's amendment filed on 08/05/2004. New claims 8 and 9 are entered. Claims 1-9 are currently pending in the application. An action follows below:

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

3. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/075,311, filed on 14 February 2002.

Drawings

4. The drawings were filed on 14 February 2002. These drawings are accepted.

Response to Amendment

5. Applicant's arguments, see page 4, two last lines through page 5, line 16, filed 05 August 2004, with respect to claims 1-7 have been fully considered and are persuasive. The rejection of claims 1-7 has been withdrawn.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 1-6, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishihara (previously cited, EU 0588019 A2) in view of Bae et al (newly cited, US 5,247,194).

8. As to claim 1, Ishihara teaches a display device comprising:

- a. Fig. 13 discloses a liquid crystal capacitor 7 (a pixel, fig. 13), a TFT 3 (a switching, fig. 13), an n-th scanning line 1' (selection electrodes), and image signal line 2 (data electrodes) (page 9, line 57 through page 10, line 2).
- b. Fig. 11 discloses a scanning driving circuit 9 (a first driver), and an image driving circuit 10 (a second driver) (page 9, lines 36-37).
- c. Fig. 3 discloses a backlight 21, an inverter 22, a transformer 23, a fan 24, a power source 25 for the backlight 21, a diffuser 26 which are defined a pulse backlight system as claimed (page 6, lines 1-3).

Accordingly, Ishihara teaches all of the claimed limitation of claim 1, except for "increase the switching rate of pixels in the sequence of selecting the pixels during operation."

However, Bae et al teaches thin film transistor with an increased switching rate according to the driving ability of a plurality of pixels (col. 6, lines 6-13).

Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention to substitute each Ishihara's thin film transistor for thin film transistor with an increased switching rate according to the driving ability of a plurality of pixels, in view of the teaching in the Bae's reference, because this would provide a thin film transistor having an improved driving ability, while fabricating a plurality of thin film

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transistors are easy to be carried out and the on-currents are more improve as taught by Bae (col. 2, lines 7-21).

9. As to claim 2, Ishihara teaches V_{sig} is display data itself and varies between a maximum and minimum arbitrarily (page 8, line 41). Figs. 7e and 7f depict voltage changes at the pixel electrode of the point A in fig. 6 (page 8, lines 42). Bae et al teaches thin film transistor with an increased switching rate according to the driving ability of a plurality of pixels (col. 6, lines 6-13).

Therefore, the modified teaching of Ishihara's reference in view of the modified teaching of Bae's reference provide the "substantial evidence" and established a prima facie case to produce and result the claimed limitations of claim 2.

10. As to claim 3, Ishihara teaches influence of the driving voltages appears at a pixel electrode disposed at a point A through the parasitic capacitors and the capacitors formulated intentionally (page 10, lines 7-9). Bae et al teaches thin film transistor with an increased switching rate according to the driving ability of a plurality of pixels (col. 6, lines 6-13).

Therefore, the modified teaching of Ishihara's reference in view of the modified teaching of Bae's reference provide the "substantial evidence" and established a prima facie case to produce and result the claimed limitations of claim 3.

11. As to claim 4, Ishihara teaches as external driving voltage applied to the electrodes of the elements, a scanning signal $V_g(n)$ is supplied to the n-th scanning signal line 1'.... Influence of the driving voltages appears at a pixel electrode disposed

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at a point A through the parasitic capacitors and the capacitors formulated intentionally (page 10, lines 4-9).

12. As to claims 5, 6, 8, and 9, Ishihara teaches the area of the storage capacitor 63 is changed from the upper portion of the liquid crystal panel towards the lower portion of the liquid crystal panel such that the storage capacitor has a capacity five times a liquid crystal capacity and a capacity equal to the liquid crystal capacity at the upper portion and the lower portion of the liquid crystal panel, respectively (see fig. 17, page 10, lines 35-39).

Therefore, "the area of the storage capacitor 63 is changed from the upper portion of the liquid crystal panel towards the lower portion of the liquid crystal panel" provide the "substantial evidence" and established a prima facie case to produce and result the claimed limitation "the capacitive decreases in the sequence".

"The area of the storage capacitor 63 is changed from the lower portion of the liquid crystal panel towards the upper portion of the liquid crystal panel" provide the "substantial evidence" and established a prima facie case to produce and result the claimed limitation "the capacitive increases in the sequence".

13. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishihara in view of Bae et al as applied to claim 1 above, and further in view of Bonnett et al (previously cited).

14. As to claim 7, Ishihara teaches all of the claimed limitations of claim 1, except for the temperature increases in the direction of the sequence of selecting the pixels.

However, Bonnett teaches a liquid crystal display device comprising the graph 14 illustrates the effect of increasing temperature on the pixels in the odd frames whereas the graph 15 illustrates the effect of increasing temperature on the pixels in the even frames (fig. 4, col. 5, lines 25-28).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to provide Ishihara's LCD device including increasing temperature on the pixels, in view of the teaching in the Bonnett's reference, because this would compensate for change in gray level with temperature as taught by Bonnett (col. 6, lines 42-45).

Response to Arguments

15. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Kevin M. Nguyen** whose telephone number is **703-305-6209**. The examiner can normally be reached on MON-THU from 9:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reached on **703-305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

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or faxed to:

(703) 872-9306 (for Technology Center 2600 only)

Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Kevin M. Nguyen
Patent Examiner
Art Unit 2674

KN
January 7, 2005



XIAO WU
PRIMARY EXAMINER